UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/352,362	07/13/99	YAMAZAKI	S 0756-1996

EXAMINER	
DIAZ, T	
ART UNIT	PAPER NUMBER
2815	

DATE MAILED:
11/09/00

022204
NIXON PEABODY, LLP
8180 GREENSBORO DRIVE
SUITE 800
MCLEAN VA 22102

MMC2/1109

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/352,362	YAMAZAKI ET AL.	
	Examiner	Art Unit	
	José R. Díaz	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

1)☒ Responsive to communication(s) filed on *22 August 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) *1-4* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a)☒ All b)☐ Some * c)☐ None of the CERTIFIED copies of the priority documents have been:

1.☒ received.

2.☐ received in Application No. (Series Code / Serial Number) _____ .

3.☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other:

DETAILED ACTION

Claim Objections

➢ Claims 5, 7, 10, 12, 15, 17, 20, 22, 25, and 27-29 objected to because of the following informalities: Examiner suggests changing the terms: "a part or an entire region" to --at least a portion--. Appropriate correction is required.

Double Patenting

➢ Applicant is advised that should claim 5 be found allowable, claim 15 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

➢ Applicant is advised that should claim 6 be found allowable, claim 16 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

➢ Applicant is advised that should claim 7 be found allowable, claim 17 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both

cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

➢ Applicant is advised that should claim 8 be found allowable, claim 18 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

➢ Applicant is advised that should claim 9 be found allowable, claim 19 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

➢ Applicant is advised that should claim 10 be found allowable, claim 20 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

➢ Applicant is advised that should claim 11 be found allowable, claim 21 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

➢ Applicant is advised that should claim 12 be found allowable, claim 22 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

➢ Applicant is advised that should claim 13 be found allowable, claim 23 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

➢ Applicant is advised that should claim 14 be found allowable, claim 24 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing

one claim to object to the other as being a substantial duplicate of the allowed claim.

See MPEP § 706.03(k).

➢ The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

➢ Claims 5-29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of Zhang et al. (U.S. Patent No. 6,077,758) in view of Zhang et al. (U.S. Patent No. 5,529,937).

Regarding claims 5-9 and 15-19, Zhang et al. ('758) claim forming a catalyst element for promoting a crystallization of a non-monocrystal silicon film ("amorphous semiconductor thin film"), crystallizing the non-monocrystal silicon film by thermal annealing ("first heat treatment"), and performing a second crystallization in an atmosphere containing a halogen compound gas (See claim 1). Regarding the range of temperature claimed by Applicant, Zhang et al. ('758) teach irradiating a temperature between about 900-1200 (Column 15, lines 15-17).

Regarding claims 10-14 and 20-28, Zhang et al. ('758) claim forming a catalyst element for promoting a crystallization of a non-monocrystal silicon film ("amorphous

semiconductor thin film"), crystallizing the non-monocrystal silicon film by thermal annealing ("first heat treatment"), and performing a second crystallization in an atmosphere containing a halogen compound gas (See claim 1). Regarding the range of temperature claimed by Applicant, Zhang et al. ('758) teach irradiating a temperature between about 900-1200 (Column 15, lines 15-17). However, Zang et al. ('758) do not claim carrying out a second heat treatment of irradiating the crystalline semiconductor thin film with ultraviolet light or infrared light. Zhang et al. ('937) claim further irradiating said silicon film after performing said first thermal annealing (See claim 20). Regarding claims 25-28, wherein the steps of introducing phosphorus into the crystalline semiconductor film and patterning the crystalline semiconductor thin film to form at least one crystalline semiconductor island are claimed, Zhang et al. ('937) teach performing ion implantation to which impurities P or N type conductive type are introduced into an active layer area (column 10, lines 24-26) and patterning said film and active layer to form islands (column 9, lines 33-35).

Regarding claims 28-29, Zhang et al. ('937) claim forming a catalyst element for promoting a crystallization of a non-monocrystal silicon film ("amorphous semiconductor thin film"), crystallizing the non-monocrystal silicon film by thermal annealing ("first heat treatment"), and increasing the crystallinity by irradiating ("second heat treatment") said silicon film (See claim 1). Regarding the step of irradiating the crystalline semiconductor thin film, Zhang et al. ('937) claim further irradiating said silicon film after performing said first thermal annealing (See claim 20). Regarding the reducing atmosphere and the range of temperature claimed by Applicant, Zhang et al. ('937) teach irradiating infrared

rays in a atmosphere containing H_2 at a temperature between about 900-1200 (Column 9, lines 50-51 and 54-55).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Zhang et al. (US Patent No. 5,403,772 and US Patent No. 6,071,764) disclose method for manufacturing a thin film transistor. Kusumoto et al. (US Patent No. 5,953,597) disclose method for producing insulated gate thin film semiconductor device. Kusumoto et al. (US Patent No. 6,027,960) disclose laser-annealing method. Adachi et al. (US Patent No. 5,492,843 and US Patent No. 5,837,619) disclose method of processing substrate. Koyama et al. (US Patent No. 5,789,762) disclose a semiconductor active matrix circuit.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José R. Díaz whose telephone number is (703) 308-6078. The examiner can normally be reached on 8:00 - 5:00 Monday through Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JRD
November 6, 2000

EDDIE C. LEE
PRIMARY EXAMINER